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16 April 1959

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Attention: Mr. [REDACTED]

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Subject: Progress Reports, Submission of

Enclosure: (A) Progress Reports for the Month of
February 1959, in quadruplicate

Gentlemen:

As required, Enclosure (A), described above, is submitted detailing the progress achieved during the month of February 1959.

In the event further information is desired concerning the enclosed reports, do not hesitate to contact the writer.

Very truly yours,

25X1

[REDACTED]
Contract Administrator
NKG:js

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CC:

[REDACTED]

w/Enclosure

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PROGRESS REPORT
FOR
MONTH OF FEBRUARY 1959

TRANSPORTABLE INFLATABLE ANTENNA

Purpose: The scope of this project is to design, develop and test one antenna system for the 350-10,000 mc range and to fabricate and deliver five complete antenna systems with indoor mounts and two interchangeable outdoor mounts.

Personnel: Electrical Engineers:

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Mechanical Engineers:

Status: The impedance match of the test model periodic feed was improved to a VSWR of less than 3:1 over the entire band except at two sharp points where the VSWR was 3.1:1. This was accomplished by varying the impedance transformation of the tapered line balun. The above VSWR was measured with the feed in front of a four foot dish.

The radiation patterns of the two foot dish were taken before and after the dish had been cut into four segments. The proper spacing of the horn aperture from the center of the dish surface was determined by taking patterns as the feed-to-dish spacing was varied over a range with the average value being the focal length of the dish. The input VSWR of the test feed horn in conjunction with its dish was improved to 1.8:1 over its frequency range of 6000-10,000 mc.

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One of the inflatable bags has been received. A ring and feed support are being completed. One complete inflatable dish will be assembled as soon as the blower used to inflate the bag has been received (the blowers have been on order for several weeks; they are a month overdue at present). A final model of a full size periodic feed is being fabricated. The first portion of the coax cable ordered from Andrew has not yet been received (it is a month overdue).

Future Plans: The VSWR of the full size final model periodic feed for the 6.5 foot dish and the horn feed for the 2 foot dish will be checked with and without their respective dishes as soon as the dishes have been assembled. The remainder of the feeds will be rushed through the model shop as soon as the first feeds have been checked (the VSWR value quoted for the horn and periodic feed might increase slightly because of the foam used to weather-proof them. If this increase is too great, it may be necessary to make slight modifications). The patterns of the feeds will be taken alone and patterns will be taken of the dishes. The work on the instruction book has been delayed until the last of March.

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